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August 10, 2005

Ms. Darcy Bering Sonoma County Department of Env. Health 3273 Airway Drive, Suite D Santa Rosa, California 95403

Subject:

3705 Gravenstein Highway South, Sebastopol, California

Dear Ms. Bering:

Enclosed for your review is SOMA's "Workplan for Monitoring Well Installation" at the subject property.

Thank you for your time in reviewing our report. Please do not hesitate to call me at (925) 734-6400, if you have any questions or comments.

Sincerely,

Mansour Sepehi, Ph.D., PE Principal Hydrogeologist

Enclosure

CC:

Mr. Chris Ghanayem w/enclosure



WORKPLAN FOR MONITORING WELL INSTALLATION

BILL'S GROCERY AND DELI 3705 Gravenstein Highway Sebastopol, California

August 8, 2005

Project 2870

Prepared for

Mr. Chris Ghanayem 3705 Gravenstein Highway, South Sebastopol, California

Prepared by

SOMA Environmental Engineering, Inc. 6620 Owens Drive, Suite A Pleasanton, California

CERTIFICATION

This report has been prepared by SOMA Environmental Engineering, Inc. on behalf of Mr. Chris Ghanayem, the property owner of Bill's Deli and Market, located at 3705 Gravenstein Highway, South, Sebastopol, California. This workplan has been prepared in response to Sonoma County Health Care Services' workplan request letter, dated July 6, 2005.

Mansour Sepehr, Ph.D., PE Principal Hydrogeologist



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Method 8260B). May 2005

1.0 INTRODUCTION

SOMA Environmental Engineering, Inc. (SOMA) has prepared this workplan on behalf of Mr. Chris Ghanayem, the property owner of Bill's Deli and Market, at 3705 Gravenstein Highway South, Sebastopol, California, hereby referred to as "the Site." SOMA has prepared this workplan in response to Sonoma County Health Care Services' workplan request letter, dated July 6, 2005. As shown in Figure 1, the Site is located north of Highway 116 and is within an area consisting of small commercial and rural residential properties. The Site is currently operating as a gasoline service station and convenient market.

1.1 Previous Activities

In March 1997, DHS Contractors and Touchstone Development removed three 10,000-gallon gasoline single-walled steel underground storage tanks (USTs) from the Site. Product lines and the pump island were also removed during the tank removal activities. Soil samples were collected from the excavation pits. Sonoma County Public Health Department official, John Anderson, was present during these removal and sampling events. The fuel USTs showed no visible holes or damage.

The soil and groundwater samples collected from the bottom of the excavated UST cavity, pump island, and product lines were analyzed for total petroleum hydrocarbons as gasoline (TPH-g).

TPH-g, benzene, toluene, ethylbenzene, total xylenes (BTEX), Methyl tertiary Butyl Ether (MtBE) and lead. Both TPH-g and MtBE were detected at 160 parts per million in the groundwater sample. MtBE was detected at 190 parts per billion in the soil sample collected from the removed product line adjacent to the pump island.

The Site has been monitored on a quarterly basis since December 2000. Historically, TPH-g and BTEX groundwater constituents have remained below the laboratory reporting limit. MtBE groundwater constituents have either been at non-detectable laboratory levels or near non-detectable laboratory levels.

In March 2004, Jim Glomb Geotechnical and Environmental Consulting, of Sebastopol, California, installed five additional wells (MW-4 through MW-8) at the Site, as shown in Figure 2.

1.2 Regional Geology and Hydrogeology

Deep alluvial deposits that consist mainly of interbedded coarse and fine-grained sediments underlie the Site. During previous investigations groundwater has been encountered groundwater at 3 to 4 feet below ground surface (bgs). Groundwater appears to flow to the southwest, as seen in the groundwater elevation contour map presented as Figure 3 (SOMA 2005).

2.0 SCOPE OF WORK

Based on the results of previous investigations and the Sonoma County Health Care Services' directive, as specified in their letter dated July 6, 2005, the proposed work at the Site is intended to better define the MtBE plume downgradient (southwest) of monitoring well MW-8. To better define the MtBE plume, SOMA will install three off-site monitoring wells downgradient of MW-8. The proposed drilling locations are shown in Figure 2.

SOMA organized the scope of the proposed investigation into the following tasks:

Task 1: Permit Acquisition, Health and Safety Plan Preparation, and Subsurface Utility Clearance

Task 2: Installation of Groundwater Monitoring Wells

Task 3: Develop, Sample, and Survey the Monitoring Wells

Task 4: Laboratory Analysis

Task 5: Prepare a Technical Report

The following is a description of the above-mentioned tasks.

2.1 Permit Acquisition, Health and Safety Plan Preparation, and Subsurface Utility Clearance

Prior to commencing field activities, SOMA will obtain the necessary drilling permits from the Sonoma County Health Care Services and the City of Sebastopol.

A site-specific health and safety plan (HASP) will be prepared by SOMA. The HASP is designed to address safety provisions during field activities. It provides procedures to protect the field crew from physical and chemical hazards resulting from drilling, as well as soil and groundwater sampling. The HASP establishes personnel responsibilities, general safe work practices, field procedures, personal protective equipment standards, decontamination procedures and emergency action plans.

SOMA will contact Underground Service Alert (USA) to clear the drilling areas of underground utilities. Following USA clearance, a private utility locator will survey the drilling areas to locate any additional subsurface conduits.

2.2 Installation of Groundwater Monitoring Wells

Using a hollow stem auger (HSA) drilling rig, the well boreholes will be continuously sampled to approximately 25 to 30 feet, with continuous sampling commencing at approximately 5 feet below ground surface (bgs). During the drilling operation, the thickness of the saturated zone will be verified by

continuous sampling with an unlined sampler. SOMA's field geologist will collect one soil sample from each well borehole location at the first observed soil—groundwater interface. The field geologist will also collect representative bag samples of different soil units encountered in the well boreholes and measure the volatile vapors with a photo ionization detector (PID). The PID readings will be recorded on the monitoring well borehole logs.

After advancing the borehole to approximately ten feet below first encountered groundwater, the casing will be installed with factory-slotted two-inch diameter schedule 40 PVC screen with 0.01-inch slots. The drilling crew will attach a PVC cap on the bottom of the casing without adhesives or tape, and the top of the casing will be fitted with a locking well plug. After the casing is set into the borehole, a sand filter pack will be emplaced outside the casing by slowly pouring 2/12 kiln-dried sand into the annular space from the bottom of the borehole to approximately one to two feet above the screened interval. To prevent grout from infiltrating down into the filter material, a one to two-foot thick bentonite plug will be placed above the filter pack and hydrated. After thoroughly hydrating the bentonite seal, the well will be sealed from the top of the bentonite layer to about 1-foot bgs with neat cement. Near surface grade the wells will be completed by installing a traffic-rated well vault into a concrete foundation.

2.3 Monitoring Well Development, Sampling, and Surveying

SOMA field personnel will oversee the development of the wells. The wells will be bailed to remove sediments and then surged to develop the sand filter pack. The field crew will then pump the wells until the groundwater clarifies substantially and the groundwater quality parameters stabilize.

Upon development of the wells, a SOMA field representative will use a disposable bailer to collect grab groundwater samples. Grab groundwater

samples will be transferred into 40 mL VOA vials, placed into an ice chest, and transported to a state-certified laboratory.

After installing the monitoring wells, a licensed surveyor will horizontally and vertically survey the casing elevation of the monitoring well in accordance with NAD-survey requirements, set forth by the UST Fund. The surveyor's report will be included as an appendix to the investigation report.

During subsequent quarterly monitoring events, SOMA field personnel will purge and sample the wells.

2.4 Laboratory Analysis

Groundwater and soil samples will be submitted to Pacific Analytical Laboratories (PAL), a state-certified laboratory. The samples will be analyzed for the following constituents:

- Total petroleum hydrocarbons as gasoline (TPH-g)
- Benzene, toluene, ethylbenzene, total xylenes (collectively referred to as BTEX)
- Methyl tertiary Butyl Ether (MtBE)
- Gasoline oxygenates, consisting of tertiary Butyl Alcohol (TBA) Diisopropyl Ether (DIPE), Ethyl tertiary Butyl Ether (ETBE), Methyl tertiary Amyl Ether (TAME)
- Ethanol
- Lead Scavengers, consisting of 1,2-Dichloroethane (1,2-DCA), and 1,2-Dibromoethane (EDB).

2.5 Prepare Technical Report

Upon completing the above-mentioned tasks, SOMA will prepare a technical report containing a detailed description of the investigation procedures and the results of the field investigation. The written report will include tables, figures,

and lithologic logs to help explain the results of the investigation.	The report will
also include a discussion of our recommendations for further actio	n.

3.0 REFERENCES

Jim Glomb, Geotechnical and Environmental Consulting, April 28, 2004. "Additional Groundwater Well Installation and Well Monitoring at 3705 Gravenstein Hwy. Sebastopol, California.

Sonoma County Department of Health Care Services, July 6, 2005. "RE: Second Quarter 2005 Groundwater Monitoring Report."

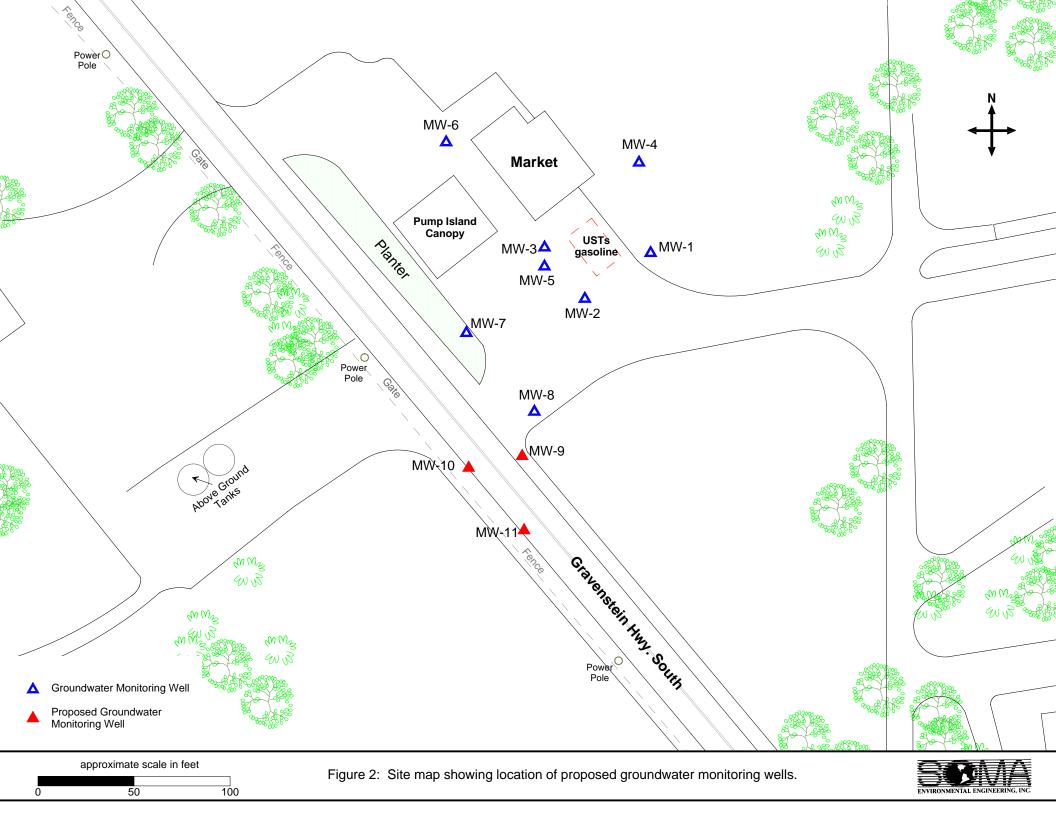
SOMA Environmental Engineering Inc., June 6, 2005. "Second Quarter 2005 Groundwater Monitoring Report."

Figures









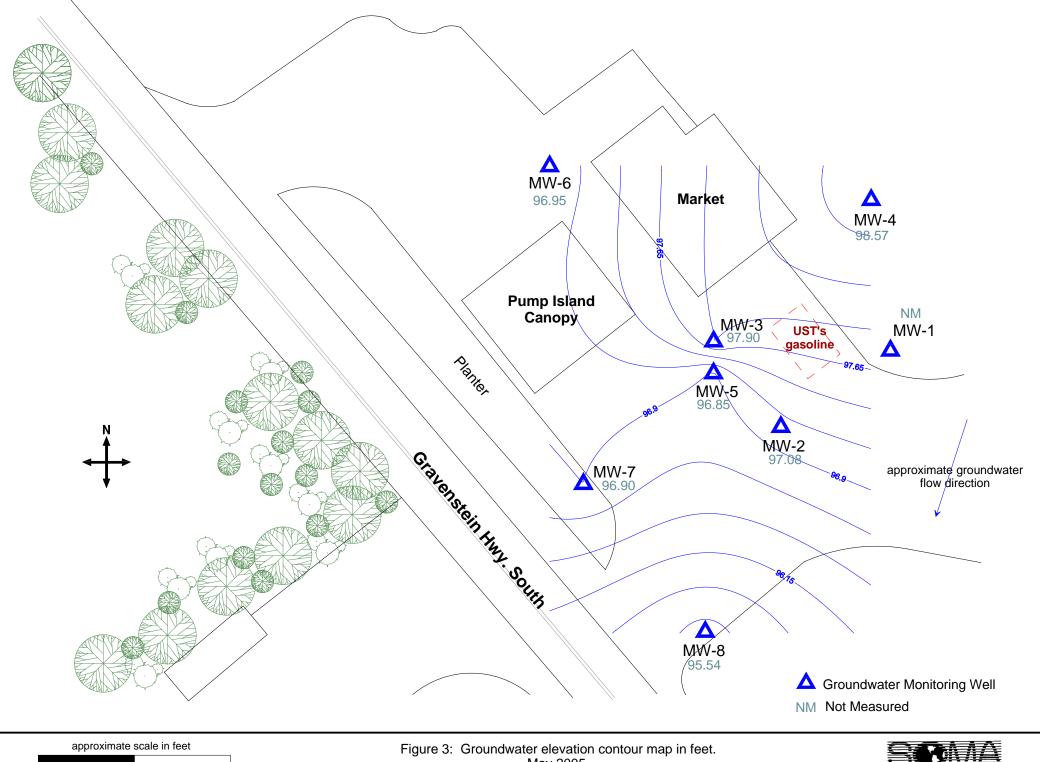
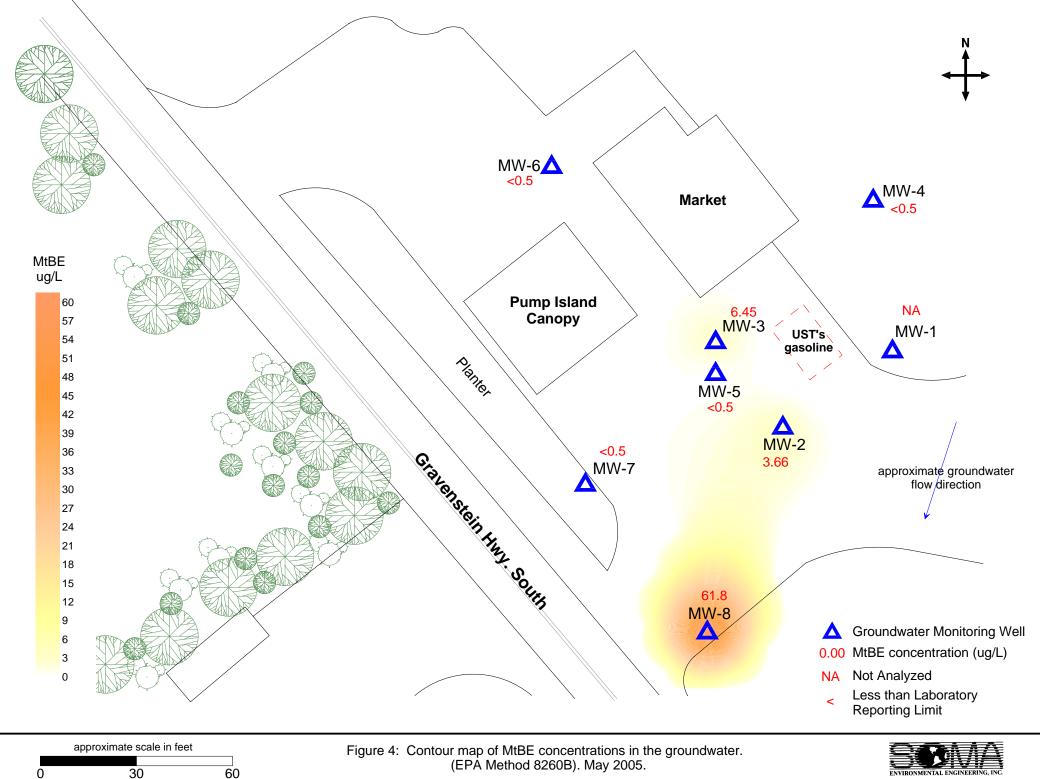


Figure 3: Groundwater elevation contour map in feet. May 2005.





(EPA Method 8260B). May 2005.

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